

## RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number:

10/729,340C

Source:

ITW0

Date Processed by STIC:

11-23-04

# ***ENTERED***



IFWO

## RAW SEQUENCE LISTING

DATE: 11/23/2004

PATENT APPLICATION: US/10/729,340C

TIME: 13:02:22

Input Set : A:\PTO.FG.txt

Output Set: N:\CRF4\11222004\J729340C.raw

1 <110> APPLICANT: Jager, Dirk  
 2 Stockert, Elizabeth  
 3 Scanlan, Matthew  
 4 Gure, Ali  
 5 Knuth, Alexander  
 6 Old, Lloyd  
 7 Chen, Yao-tseng  
 9 <120> TITLE OF INVENTION: Isolated Nucleic Acid Molecules Encoding Cancer Associated  
 Antigens, the  
 10 Antigens Per Se, and Uses Thereof  
 W--> 11 <130> FILE REFERENCE: LUD 5793.1  
 13 <140> CURRENT APPLICATION NUMBER: US 10/729,340C  
 14 <141> CURRENT FILING DATE: 2003-12-04  
 16 <150> PRIOR APPLICATION NUMBER: US 60/430,869  
 17 <151> PRIOR FILING DATE: 2002-12-04  
 19 <150> PRIOR APPLICATION NUMBER: US 10/181,663  
 20 <151> PRIOR FILING DATE: 2000-11-29  
 22 <150> PRIOR APPLICATION NUMBER: US 09/602,362  
 23 <151> PRIOR FILING DATE: 2000-06-22  
 25 <150> PRIOR APPLICATION NUMBER: US 09/451,739  
 26 <151> PRIOR FILING DATE: 1999-11-30  
 28 <160> NUMBER OF SEQ ID NOS: 32  
 30 <210> SEQ ID NO: 1  
 31 <211> LENGTH: 1533  
 32 <212> TYPE: DNA  
 33 <213> ORGANISM: Homo sapiens  
 W--> 34 <220> FEATURE:  
 35 <221> NAME/KEY: CDS  
 36 <222> LOCATION: 235  
 37 <223> OTHER INFORMATION: n is undefined  
 W--> 38 <400> SEQUENCE: 1  
 39 ggttttccac gttggacaag tgccggtcgg cggccagcgg agcgcgcccc ttcccgtcgc 60  
 40 ccgctccgct cctctcttct acccagccca gtgggcgagt gggcagcggc ggccgcggcg 120  
 41 ctgggcccctc tcccgcgggt gtgtgcgcgc tcgtacgcgc ggccccggcg gccagccccg 180  
 W--> 42 ccgcctgaga gggggcctgc gccgcgggcc ggggcgtgcg cccgggagcc accgncaccg 240  
 43 cggcccgcgc cctcaggcgc tgggggtcccc gcggaccgag aggcggcgga cgggctcggc 300  
 44 agatgtagcc gcccgggcga agcaggagcc ggcggggggg cgcggggaga gcgagggctt 360  
 45 tgcattttgc agtgcatttt tttgaggggg gcggaggggt gaggaagtcg gaaagccgcg 420  
 46 ccgagtcgcc ggggacctcc ggggtgaacc atgttgagtc ctgccaacgg ggagcagctc 480  
 47 cacctggtga actatgtgga ggactacctg gactccatcg agtccctgcc tttcgacttg 540  
 48 cagagaaatg tctcgtgat gcgggagatc gacgcgaaat accaagagat cctgaaggag 600  
 49 ctgacagagt gctacgagcg cttcagtcgc gagacagacg gggcgcagaa gcggcggatg 660  
 50 ctgcactgtg tgcagcgcgc gctgatccgc agccaggagc tgggcgacga gaagatccag 720  
 51 atcgtgagcc agatggtgga gctggtggag aaccgcacgc ggcaggtgga cagccacgtg 780

(ps.6)

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```

52 gagctgttcg aggcgcagca ggagctgggc gacacagcgg gcaacagcgg caaggctggc 840
53 gcggacaggg ccaaaggcga ggcggcagcg caggctgaca agcccaacag caagcgtca 900
54 cggcggcagc gcaacaacga gaaccgtgag aacgcgtcca gcaaccacga ccacgacgac 960
55 ggcgcctcgg gcacacccaa ggagaagaag gccaaagacct ccaagaagaa gaagcgtccc 1020
56 aaggccaagg cggagcgaga ggcgtccctt gccgacctcc ccacgacccc caacgaaccc 1080
57 acgtactgtc tgtgcaacca ggtctcctat ggggagatga tcggtgcga caacgacgag 1140
58 tgcccatcgg agtggttcca cttctcgtgc gtggggctca atcataaacc caagggcaag 1200
59 tggtagtgtc ccaagtgcgg gggggagaac gagaagacca tggacaaagc cctggagaaa 1260
60 tccaaaaaag agagggctta caacaggtag tttgtggaca ggcgcctggg gtgaggagga 1320
61 caaaataaac cgtgtattta ttacattgct gcctttgttg aggtgcaagg agtgtaaaat 1380
62 gtatatattt aaagaatggt agaaaaggaa ccattccttt catagggatg gcagtgattc 1440
63 tgtttgcctt ttgttttcat tggtagacgt gtaacaagaa agtggctctg ggatcagcat 1500
64 tttagaaact acaaatatag gtttgattca aca 1533

```

67 &lt;210&gt; SEQ ID NO: 2

68 &lt;211&gt; LENGTH: 1143

69 &lt;212&gt; TYPE: DNA

70 &lt;213&gt; ORGANISM: Homo sapiens

W--&gt; 71 &lt;400&gt; SEQUENCE: 2

```

72 gagtaacccg ataatatgcc gttgtccggc acggcgacga gaattcccag atatagcagt 60
73 agcagtgatc ccgggcctgt ggctcggggc cggggctgca gttcggaccg cctcccgca 120
74 ccgcggggg ctcggagaca gtttcaggcc gcattcttgc tgaccgagg gtggggccgc 180
75 gcgtggccgt ggaaacagat cctgaaggag ctacgacgag gctacgagcg cttcagtcgc 240
76 gagacagacg ggcgcagaa gcggcggatg ctgcactgtg tgcagcgcgc gctgatccgc 300
77 agccaggagc tgggcgacga gaagatccag atcgtgagcc agatggtgga gctggtggag 360
78 aaccgcacgc ggcaggtgga cagccacgtg gagctgttcg aggcgcagca ggagctgggc 420
79 gacacagtgg gcaacagcgg caaggttggc ggcgacaggc ccaatggcga tgcggtagcg 480
80 cagtctgaca agcccaacag caagcgtca cggcggcagc gcaacaacga gaaccgtgag 540
81 aacgcgtcca agccacacga ccacgacgac ggcgcctcgg gcacacccaa ggagaagaag 600
82 cccaagacct ccaagaagaa gaagcgtccc aaggccaagg cggagcgaga ggcgtccct 660
83 gccgacctcc ccacgacccc caacgaaccc acgtactgtc tgtgcaacca ggtctcctat 720
84 ggggagatga tcggtgcga caacgacgag tgcccatcgg agtggttcca cttctcgtgc 780
85 gtggggctca atcataaacc caagggcaag tggtagtgc ccaagtgcgg gggggagaac 840
86 gagaagacca tggacaaagc cctggagaaa tccaaaaaag agagggctta caacaggtag 900
87 tttgtggaca ggcgcctggt gtgaggagga caaaataaac cgtgtattta ttacattgct 960
88 gcctttgttg aggtgcaagg agtgtaaaat gtatatattt aaagaatggt agaaaaggaa 1020
89 ccattccttt catagggatg gcagtgattc tgtttgcctt ttgttttcat tggtagacgt 1080
90 gtaacaagaa agtggctctg ggatcagcat tttagaaact acaaatatag gtttgattca 1140
91 aca 1143

```

94 &lt;210&gt; SEQ ID NO: 3

95 &lt;211&gt; LENGTH: 742

96 &lt;212&gt; TYPE: DNA

97 &lt;213&gt; ORGANISM: Homo sapiens

W--&gt; 98 &lt;400&gt; SEQUENCE: 3

```

99 cgccgtccac accccagcgg ccttgacgt gtccctccg cgaccctcgc ctctggaaaa 60
100 agtgacaggg aaggccacgc ccccgcgagg gccggcctcg agcccgacgc cccaggggcc 120
101 tgggacgaga tctgaagga gctagacgag tgctacgagc gcttcagtcg cgagacagac 180
102 ggggcgcaga agcggcggat gctgcaactg gtgcagcgcg cgctgatccg cagccaggag 240
103 ctgggcgacg agaagatcca gatcgtgagc cagatggtgg agctggtgga gaaccgcacg 300
104 cggcaggtgg acagccacgt ggagctgttc gaggcgcagc aggagctggg cgacacagcg 360

```

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```

105 ggcaacacgcg gcaaggctgg cgcggacagg cccaaaggcg aggcggcagc gcaggctgac 420
106 aagcccaaca gcaagcgctc acggcggcag cgcaacaacg agaaccgtga gaacgcgtcc 480
107 agcaaccacg accacgacga cggcgctcgg ggacacacca aggagaagaa ggccaagacc 540
108 tccaagaaga agaagcgctc caaggccaag gcggagcgag aggcgtcccc tgccgacctc 600
109 cccatcgacc ccaacgaacc cacgtactgt ctgtgcaacc aggtctccta tggggagatg 660
110 atcggctgcg acaacgacga gtgccccatc gagtgggtcc acttctcgtg cgtggggctc 720
111 aatcataaac ccaagggcaa gt 742

```

114 &lt;210&gt; SEQ ID NO: 4

115 &lt;211&gt; LENGTH: 857

116 &lt;212&gt; TYPE: DNA

117 &lt;213&gt; ORGANISM: Homo sapiens

W--&gt; 118 &lt;400&gt; SEQUENCE: 4

```

119 cctccgagaa cgggtgtccat ggcacagggc gggaagagat aaggcctagg gaaggcgccc 60
120 ctcgggccta tccacctctt ctggggctcg gcactaggaa gcagcttccc tctcaggccc 120
121 ctttgtctcc aagcgtttcc aaactgagta ccgggagacg acacaaaggg agggcggtga 180
122 cggatggcgc aggcgcggga gccgcctagg ctgctgggag tggtaggtccg gccgcggaat 240
123 ggagatcctg aaggagctag acgagtgtga cgagcgcttc agtcgcgaga cagacggggc 300
124 gcagaagcgg cggatgtctg actgtgtgca gcgcgcgtg atccgcagcc aggagctggg 360
125 cgacgagaag atccagatcg tgagccagat ggtggagctg gtggagaacc gcacgcggca 420
126 ggtggacagc cacgtggagc tgttcgaggg gcagcaggag ctgggcgaca cagcgggcaa 480
127 cagcggcaag gctggcgcgg acaggcccaa aggcgaggcg gcagcgcagg ctgacaagcc 540
128 caacagcaag cgctcacggc ggcagcgcaa caacgagaac cgtgagaacg cgtccagcaa 600
129 ccacgaccac gacgacggcg cctcgggcac acccaaggag aagaaggcca agacctccaa 660
130 gaagaagaag cgctccaagg ccaaggcgga gcgagaggcg tcccctgccg acctcccat 720
131 cgaccccaac gaaccacgt actgtctgtg caaccaggtc tcctatgggg agatgatcgg 780
132 ctgcgacaac gacgagtggc ccatcgagtg gttccacttc tcgtgcgtgg ggctcaatca 840
133 taaacccaag ggcaagt 857

```

136 &lt;210&gt; SEQ ID NO: 5

137 &lt;211&gt; LENGTH: 279

138 &lt;212&gt; TYPE: PRT

139 &lt;213&gt; ORGANISM: Homo sapiens

W--&gt; 140 &lt;400&gt; SEQUENCE: 5

```

141 Met Leu Ser Pro Ala Asn Gly Glu Gln Leu His Leu Val Asn Tyr Val
142 1 5 10 15
143 Glu Asp Tyr Leu Asp Ser Ile Glu Ser Leu Pro Phe Asp Leu Gln Arg
144 20 25 30
145 Asn Val Ser Leu Met Arg Glu Ile Asp Ala Lys Tyr Gln Glu Ile Leu
146 35 40 45
147 Lys Glu Leu Asp Glu Cys Tyr Glu Arg Phe Ser Arg Glu Thr Asp Gly
148 50 55 60
149 Ala Gln Lys Arg Arg Met Leu His Cys Val Gln Arg Ala Leu Ile Arg
150 65 70 75 80
151 Ser Gln Glu Leu Gly Asp Glu Lys Ile Gln Ile Val Ser Gln Met Val
152 85 90 95
153 Glu Leu Val Glu Asn Arg Thr Arg Gln Val Asp Ser His Val Glu Leu
154 100 105 110
155 Phe Glu Ala Gln Gln Glu Leu Gly Asp Thr Val Gly Asn Ser Gly Lys
156 115 120 125
157 Val Gly Ala Asp Arg Pro Asn Gly Asp Ala Val Ala Gln Ser Asp Lys

```

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```

158      130      135      140
159 Pro Asn Ser Lys Arg Ser Arg Arg Gln Arg Asn Asn Glu Asn Arg Glu
160 145      150      155      160
161 Asn Ala Ser Ser Asn His Asp His Asp Asp Gly Ala Ser Gly Thr Pro
162      165      170      175
163 Lys Glu Lys Lys Ala Lys Thr Ser Lys Lys Lys Lys Arg Ser Lys Ala
164      180      185      190
165 Lys Ala Glu Arg Glu Ala Ser Pro Ala Asp Leu Pro Ile Asp Pro Asn
166      195      200      205
167 Glu Pro Thr Tyr Cys Leu Cys Asn Gln Val Ser Tyr Gly Glu Met Ile
168      210      215      220
169 Gly Cys Asp Asn Asp Glu Cys Pro Ile Glu Trp Phe His Phe Ser Cys
170 225      230      235      240
171 Val Gly Leu Asn His Lys Pro Lys Gly Lys Trp Tyr Cys Pro Lys Cys
172      245      250      255
173 Arg Gly Glu Asn Glu Lys Thr Met Asp Lys Ala Leu Glu Lys Ser Lys
174      260      265      270
175 Lys Glu Arg Ala Tyr Asn Arg
176      275
179 <210> SEQ ID NO: 6
180 <211> LENGTH: 210
181 <212> TYPE: PRT
182 <213> ORGANISM: Homo sapiens
W--> 183 <400> SEQUENCE: 6
184 Met Leu His Cys Val Gln Arg Ala Leu Ile Arg Ser Gln Glu Leu Gly
185 1      5      10      15
186 Asp Glu Lys Ile Gln Ile Val Ser Gln Met Val Glu Leu Val Glu Asn
187      20      25      30
188 Arg Thr Arg Gln Val Asp Ser His Val Glu Leu Phe Glu Ala Gln Gln
189      35      40      45
190 Glu Leu Gly Asp Thr Val Gly Asn Ser Gly Lys Val Gly Ala Asp Arg
191      50      55      60
192 Pro Asn Gly Asp Ala Val Ala Gln Ser Asp Lys Pro Asn Ser Lys Arg
193 65      70      75      80
194 Ser Arg Arg Gln Arg Asn Asn Glu Asn Arg Glu Asn Ala Ser Ser Asn
195      85      90      95
196 His Asp His Asp Asp Gly Ala Ser Gly Thr Pro Lys Glu Lys Lys Ala
197      100      105      110
198 Lys Thr Ser Lys Lys Lys Lys Arg Ser Lys Ala Lys Ala Glu Arg Glu
199      115      120      125
200 Ala Ser Pro Ala Asp Leu Pro Ile Asp Pro Asn Glu Pro Thr Tyr Cys
201      130      135      140
202 Leu Cys Asn Gln Val Ser Tyr Gly Glu Met Ile Gly Cys Asp Asn Asp
203 145      150      155      160
204 Glu Cys Pro Ile Glu Trp Phe His Phe Ser Cys Val Gly Leu Asn His
205      165      170      175
206 Lys Pro Lys Gly Lys Trp Tyr Cys Pro Lys Cys Arg Gly Glu Asn Glu
207      180      185      190
208 Lys Thr Met Asp Lys Ala Leu Glu Lys Ser Lys Lys Glu Arg Ala Tyr

```

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```

209          195          200          205
210 Asn Arg
211      210
214 <210> SEQ ID NO: 7
215 <211> LENGTH: 235
216 <212> TYPE: PRT
217 <213> ORGANISM: Homo sapiens
W--> 218 <400> SEQUENCE: 7
219 Met Glu Ile Leu Lys Glu Leu Asp Glu Cys Tyr Glu Arg Phe Ser Arg
220 1          5          10          15
221 Glu Thr Asp Gly Ala Gln Lys Arg Arg Met Leu His Cys Val Gln Arg
222      20          25          30
223 Ala Leu Ile Arg Ser Gln Glu Leu Gly Asp Glu Lys Ile Gln Ile Val
224      35          40          45
225 Ser Gln Met Val Glu Leu Val Glu Asn Arg Thr Arg Gln Val Asp Ser
226      50          55          60
227 His Val Glu Leu Phe Glu Ala Gln Gln Glu Leu Gly Asp Thr Val Gly
228 65          70          75          80
229 Asn Ser Gly Lys Val Gly Ala Asp Arg Pro Asn Gly Asp Ala Val Ala
230      85          90          95
231 Gln Ser Asp Lys Pro Asn Ser Lys Arg Ser Arg Arg Gln Arg Asn Asn
232      100          105          110
233 Glu Asn Arg Glu Asn Ala Ser Ser Asn His Asp His Asp Asp Gly Ala
234      115          120          125
235 Ser Gly Thr Pro Lys Glu Lys Lys Ala Lys Thr Ser Lys Lys Lys Lys
236      130          135          140
237 Arg Ser Lys Ala Lys Ala Glu Arg Glu Ala Ser Pro Ala Asp Leu Pro
238 145          150          155          160
239 Ile Asp Pro Asn Glu Pro Thr Tyr Cys Leu Cys Asn Gln Val Ser Tyr
240      165          170          175
241 Gly Glu Met Ile Gly Cys Asp Asn Asp Glu Cys Pro Ile Glu Trp Phe
242      180          185          190
243 His Phe Ser Cys Val Gly Leu Asn His Lys Pro Lys Gly Lys Trp Tyr
244      195          200          205
245 Cys Pro Lys Cys Arg Gly Glu Asn Glu Lys Thr Met Asp Lys Ala Leu
246      210          215          220
247 Glu Lys Ser Lys Lys Glu Arg Ala Tyr Asn Arg
248 225          230          235
251 <210> SEQ ID NO: 8
252 <211> LENGTH: 772
253 <212> TYPE: DNA
254 <213> ORGANISM: Homo sapiens
W--> 255 <220> FEATURE:
256 <221> NAME/KEY: CDS
257 <222> LOCATION: 689,714
258 <223> OTHER INFORMATION: n is unknown
W--> 259 <400> SEQUENCE: 8
260 aaagcgttct cggcggcagc gcaacaacta gaaccgtgag aacgcgtcca gcaaccgcga 60
261 cccacgacga cgtcacctcg ggcacgcccc aggagaagaa agcccagacc tctaagaaga 120

```

RAW SEQUENCE LISTING ERROR SUMMARY  
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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; N Pos. 235 ✓

Seq#:8; N Pos. 689,714 ✓

Seq#:15; N Pos. 1628,1752,1758,1769,1789,1873,1908,1915,1933,1970,1976,2022

Seq#:26; N Pos. 439,473,1789

## VERIFICATION SUMMARY

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Input Set : A:\PTO.FG.txt

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L:11 M:283 W: Missing Blank Line separator, <130> field identifier  
L:34 M:283 W: Missing Blank Line separator, <220> field identifier  
L:38 M:283 W: Missing Blank Line separator, <400> field identifier  
L:42 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:180  
L:71 M:283 W: Missing Blank Line separator, <400> field identifier  
L:98 M:283 W: Missing Blank Line separator, <400> field identifier  
L:118 M:283 W: Missing Blank Line separator, <400> field identifier  
L:140 M:283 W: Missing Blank Line separator, <400> field identifier  
L:183 M:283 W: Missing Blank Line separator, <400> field identifier  
L:218 M:283 W: Missing Blank Line separator, <400> field identifier  
L:255 M:283 W: Missing Blank Line separator, <220> field identifier  
L:259 M:283 W: Missing Blank Line separator, <400> field identifier  
L:271 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:660  
L:279 M:283 W: Missing Blank Line separator, <400> field identifier  
L:287 M:283 W: Missing Blank Line separator, <400> field identifier  
L:295 M:283 W: Missing Blank Line separator, <400> field identifier  
L:303 M:283 W: Missing Blank Line separator, <400> field identifier  
L:311 M:283 W: Missing Blank Line separator, <400> field identifier  
L:319 M:283 W: Missing Blank Line separator, <400> field identifier  
L:327 M:283 W: Missing Blank Line separator, <220> field identifier  
L:332 M:283 W: Missing Blank Line separator, <400> field identifier  
L:360 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15 after pos.:1620  
M:341 Repeated in SeqNo=15  
L:373 M:283 W: Missing Blank Line separator, <400> field identifier  
L:444 M:283 W: Missing Blank Line separator, <400> field identifier  
L:452 M:283 W: Missing Blank Line separator, <400> field identifier  
L:460 M:283 W: Missing Blank Line separator, <400> field identifier  
L:505 M:283 W: Missing Blank Line separator, <400> field identifier  
L:513 M:283 W: Missing Blank Line separator, <400> field identifier  
L:521 M:283 W: Missing Blank Line separator, <400> field identifier  
L:597 M:283 W: Missing Blank Line separator, <400> field identifier  
L:772 M:283 W: Missing Blank Line separator, <400> field identifier  
L:780 M:283 W: Missing Blank Line separator, <400> field identifier  
L:788 M:283 W: Missing Blank Line separator, <220> field identifier  
L:792 M:283 W: Missing Blank Line separator, <400> field identifier  
L:800 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:26 after pos.:420  
M:341 Repeated in SeqNo=26  
L:861 M:283 W: Missing Blank Line separator, <400> field identifier  
L:996 M:283 W: Missing Blank Line separator, <400> field identifier  
L:1004 M:283 W: Missing Blank Line separator, <400> field identifier  
L:1012 M:283 W: Missing Blank Line separator, <400> field identifier  
L:1027 M:283 W: Missing Blank Line separator, <400> field identifier  
L:1139 M:283 W: Missing Blank Line separator, <400> field identifier